



October 19, 2010
ADR 2010-11

Mr. Gregory Orehowsky
Heavy Duty and Nonroad Engine Group
Compliance and Innovative Strategies Division
Office of Transportation and Air Quality
Environmental Protection Agency
Mailcode 6405J
1200 Pennsylvania Ave, NW
Washington DC 20460

SUBJECT: Emissions Defect Information Report ADR 2010-11

Dear Mr. Orehowsky,

In accordance with the procedures outlined in 40 CFR 85, Subpart T (as referenced in 40 CFR 89, Subpart I) we are submitting the following emissions defect information report ADR 2010-11. If there are any questions regarding this submission, please contact me at (812) 377-8942 or Mark Stepper at (812) 377-5729.

Sincerely,

A handwritten signature in black ink that reads 'Victor Schneider'.

Victor Schneider
Engine Certification
Cummins Inc.
Mail Code 60702
Box 3005
Columbus, IN 47201

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Phone: 812-377-8942
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NOTE: The filing of a Defect Information Report is not conclusive as to the applicability of the Production Warranty provided by section 207(a) of the Clean Air Act.

ED_002669D_00001473-00001

Emissions Defect Report ADR 2010-11

1. CORPORATE NAME: Cummins Inc.

2. DEFECT DESCRIPTION:

A diagnostic designed to detect a Selective Catalytic Reduction (SCR) DEF doser valve functional failure was not operating correctly. When a functional failure of the DEF valve occurs, DTC 5394.7-SE4877: "Aftertreatment Diesel Exhaust Fluid Dosing Valve- Mechanical System Not Responding or Out of Adjustment" is set as a pending fault (2-trip fault), and DEF dosing is discontinued. (For Chrysler chassis cab products this diagnostic is P202E SE4877: "Reductant Injection Valve Circuit Range/Performance.") When dosing is discontinued the diagnostic enable conditions are not met, the DTC is not able to confirm on a second trip and the warning lamp (or operator display) is not illuminated.

3. DESCRIPTION OF AFFECTED VEHICLES:

2009 and 2010 model year SCR (EMD+) engines ISB, ISC, ISL, and ISX have this defect.

The following is the list of the heavy-duty on-highway diesel engine families affected and the approximate volume in each:

Family 9CEXH0912XAP	56 engines
Family 9CEXH0912XAQ	58 engines
Family 9CEXH0408BAH	4 engines
Family 9CEXH0505CAC	19 engines
Family ACEXH0912XAQ	2078 engines
Family ACEXH0912XAR	578 engines
Family ACEXH0408BAL	2309 engines
Family ACEXH0408BAH	5999 engines
Family ACEXH0408BAN	84 engines
Family ACEXH0505CAC	2885 engines
Family ACEXH0540LAQ	651 engines

4. (i) NUMBER OF Engines AFFECTED:

Approximately 14,721 engines to date.

(ii) PLANT ADDRESS:

ISB

Cummins Midrange Engine Plant
Walesboro, IN

Cummins Midrange Engine Plant
Rocky Mount, NC

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ISC
Cummins Midrange Engine Plant
Rocky Mount, NC

ISL
Cummins Midrange Engine Plant
Rockymount, NC

ISX
Jamestown Engine Plant
Jamestown, NY

5. EVALUATION OF EMISSIONS IMPACT AND DRIVEABILITY PROBLEMS:

No emissions impact when a doser valve functional malfunction is not present. When a malfunction is present there is a delay in notification to the operator, during which time there is no DEF dosing.

The emissions control system has other checks for proper doser valve operation. When DTC 5394.7-SE4877 fails to catch a dosing valve functional issue, a back stop monitor will detect an SCR malfunction that could lead to a non-compliant emissions condition. Torque derate inducement will be effected, DTC 1569.31-SE5408 is set (P2BAC-SE5408 for Chrysler chassis cab products) and the appropriate notification will be given to the operator, e.g. amber warning lamp (AWL) or display.

The system with the defect has minimal emissions and driveability impact; therefore the DEF doser value diagnostic issue would not warrant a Cummins campaign. However, since the fix was available at the same time a voluntary campaign was initiated to address other issues, Cummins included the fix in that voluntary campaign.

6. EMISSIONS DATA RELATING TO DEFECT:

None to report.

7. MITIGATION UNDER AUDIT POLICY: Cummins has satisfied all of the criteria of mitigation contained in the EPA Audit Policy, as follows:

a. Systematic Discovery –

Item discovered during ISX-1 product HD OBD Production Vehicle Evaluation malfunction detection testing required by ARB CCR 1971.1.

b. Voluntary Discovery –

Not applicable.

c. Prompt Disclosure –

Disclosure is made after pertinent information was confirmed in accordance with Defect Reporting Requirements.

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d. Correction and Remediation –

A change has been made on all products to correct this item. A service calibration was made available by September 2010.

e. Prevent Recurrence –

“Calibration compares” will assure this issue does not reoccur.

f. No Repeat Violation –

Not applicable.

g. No Harm –

The environmental impact is estimated to be minimal since it takes a specific malfunction to be present. When a malfunction is present there is a delay in notification to the operator during which time there is no DEF dosing.

h. Cooperation –

Cummins continues to cooperate with EPA on these and other matters.

8. ANTICIPATED MANUFACTURER FOLLOW-UP:

A running change was made to all SCR production engines as shown here:

- Family ACEXH0408BAH – fixed in production as of June 30, 2010.
- Family ACEXH0408BAL, ACEXH0408BAN - fixed in production as of July 16, 2010.
- Family ACEXH0505CAC - fixed in production as of July 16, 2010.
- Family ACEXH0540LAQ - fixed in production as of July 16, 2010.
- Family ACEXH0912XAQ, ACEXH0912XAR - fixed in production as of June 16, 2010.

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